MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Rec'd Febr 23
Febr 27

New York Feb. 19th. 1862.

Dr. Englmann Dear Sir - I enclose specimens of a few plants collected in New-Jersey whose locality is generally considered as not extending into that state. And write you at the instance of Dr Gray - to whom I have also sent specimens - but could get no satisfaction further than that "Dr. Engl-mann must determine such things"

Specimen No. 1 is Cuscuta Gronovii (flor. meridl.) willd
" No. 2 " " Compacta Just
" No. 3 " " Arvensis Just Beyrich
" No. 4 (flor. peninsul.) Gronovii Willd (?)
" No. 5 (flor. peninsul.) ~~Chlorotica~~ Compacta Engelm (?)
" No. 6 Lemna Virginianum L.
" No. 7 " " Nov.
" No. 8 Spiranthes Nov. Sp. (?) Certainly new to the northern states. I sent Dr. Gray specimens of it at three several times, - Each time accompanying the specimen with a detailed & minute description of the plant, before he would recognize it as anything but the Common S. Cernua! He gave in at last however but was unable to make it out definitely, and referred me to Dr. Englmann. I will give a brief description of the plant.

C. J. Austin
N York Febr 19 1862

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Stem 15-20' high, very slender, tapering upward - leafy at and near the base - leaves grass like - 3-5' long - the blade early decaying - passing in to bracts - White slightly pubescent - tapering upward - flowers white with a yellowish tinge - Much as in S. Cernua but not half as large - bracts broadly ovate abruptly pointed - about the length of pod - and with a broad white margin which when dry is of the same texture as petals. Intermediate between S. Cernua & S. Gracilis - probably if it exists in any northern herbarium it is confounded with both - yet it is very distinct from either. (Grows in Bergen Co. N.J. also in Morris Co. Mich. probably throughout the State)
Flowers in July & Aug. in this latitude about two months earlier than S. Cernua,

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

P.S. You need not
return the Specimens
C. F. A.

MISSOURI BOTANICAL GARDEN
copyright reserved
0 1 2 3 4 5 6 7 8 9 10
cm

Cuscutas Nos. 1-2 & 3 - I also sent to Dr. Gray - and in his answer he said that he could see no difference between the three, and pronounced them all "C. Gronovii"!
All from Bergen Co. N.J.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Nos. 4 & 5 - are from Camden N.J. - I am quite positive No 4 - is C. Chlorocarpa at least it cannot be the same as, either No 1 - 2 - or 3.

Concerning the Linnæans. I wish I could distinguish every species of plant one from another as readily as I can tell these plants one from another. Both are plenty in Bergen Co. and present striking differences when growing. I have at least 100 of them, of each and set a specimen exhibiting distinguishing characters.

Will you be so kind as to answer me at the earliest opportunity. I enclose a stamped Direct Columbia College ~~N.Y.~~ New York. Care of Mr. Weeks

Very truly yours. C. F. Austin



0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Recd March 19th
Ans 23d

Columbia College New York Mar. 1862

Dr. Englemann — Dear Sir — I enclose a small portion of a Collection — Nº 3. It grew on the top of the highest hills on Staten Island and on the Palizades opposite this city (in New Jersey) in situations that have not been inundated since Noah's Flood — Nor are they even inundated when it is raining)

I have not yet determined to which of our species it belongs. I have compared it with specimens in Dr's. Torrey's and Gray's Herbaria I find that it is not Verna, nor autumnalis, nor pedunculata of Nuttall, nor Pepliodes of the same author; but I cannot say it is not the Marginata of Torr. & Gray in Bot. Whip. Expl. Exped. p. 13[1]. nor can I say that it is that species. I will mention the only differences I have yet been able

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

to distinct between them. (Both have leaves, & stamens & pistils alike but in the C. Marginata the pedunicle is very long and the fruit is more than twice as large as in this plant. and is also broadly winged. Whereas in our plant this is no way yet I think I can occasionally detect them on abortive ones. Dr. Torrey has this plant from Louisiana and also from Ohio but in neither case named. The fact is his specimen were dreadfully mixed up when I took hold of them. Dr. Gray has sent me his specimen to work up but I can find no litreture on the subject that throws any light on this much neglected and befuddelled genus.

[I have no doubt our plant will prove to be the C marginata as above]

Can you give me any assistance. or information in what works I will find foreign species described. I can find neither species nor description of but the three - Vmna. centralis & pedunculata (C

I enclose specimen of Lemna minor & L. perpusilla - both in flower & fruit. I am under the impression that I had sent them before but if I have not no doubt you will be glad to see them, for one seldom sees a Lemna in flower in this country.

Very truly Yours, C. F. Austin

Direct, Columbia Coll. City of New York
Care of Mr. Weeks



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Rec'd Jan 25th
Ans March 25

Closter NJ. Jan. 18th. 1863

Dear Dr. Englemann – Your letter containing 4 Specimens of Callitriche was received over a month ago at Albany. Many thanks for the specimens – which – until now I have not had leisure to examine closely – The two European ones are C. autumnalis L. whether that is a good species or no I have not yet determined. All of its forms however – as far as I have observed – are easily separated from C. Verna. The difference is mainly in the fruit which in C. Verna is remarkably plump. & Even in C. autumnalis on the other hand it is just the reverse & usually larger. The foliage also usually and probably always differs. The other 2 specimens – one from near St. Louis – the other from Arkansas are both plainly C. Verna L. Var. hermaphroditica – which is only a state growing – where the water has left it – on the mud. Should have determined them all in 30 seconds but the Arkansas one had no fruit as I could see, but now upon picking away some dirt I find but one fruit which settles the matter beyond question.

The only Good character for any of the 6 species that I have seen exist in the fruit. Those are very characteristic & constant. so much so that with a mature fruit alone I can settle a species with a common lens, at a glance.

I have no specimens of C. Peploides & neither Marginata nor pedunculosa. and Neither Dr. Gray or Irving have any (to share I think

I should like very much to have those specimens I returned to you.

By the way what have you in Hepaticæ. These are my great hobby — I have also gone into the Sphagnums pretty thoroughly — anything in the line of these things would be most gratefully received. Or I would gladly name & return anything you might send me that you would like settled but could not spare. I have likewise studied up all the Lecheas I could get hold of. And if you have any specimens that are not satisfactorily settled please send me a small fragment of each. containing ripe fruit — stating the size & general contour of the plant with the enlargement of the branches & size & shape of stem leaves.

I enclose specimens of all the Ricciæ I have. If you have anything in this line please send it as I want to publish soon a little account of the North American species. Also I have specimens of Notothylas. I can think of nothing else that would be apt to interest you that I have. If you can let me know — please — and I will try to find it

The Pamphlet came shortly after receiving the letter — and afforded me much interest. I am very grateful for the favor.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Very truly yours C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Dec 6th
Ans Dec 9th

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Geological Rooms Albany N.Y.
Dec. 2nd. 1863

Dear Sir —

I received a letter from you last Spring containing some specimens of Callitriche. I got hold of Prof. Gray's & Dr. Torrey's specimens but formed I did not begin to have material enough to draw up a monograph from. I took notes of what I found — I discovered that there were probably not more than a half dozen species in all the world — for I saw specimens from every quarter of the globe. Callitriche Verna L. C. autumnalis L.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

C. pedunculosa Nutt. C. Marginata Torr
C. perplexa Nutt. & C. Englehardtiana M. St.
were the only good species I
found. And I had some
doubts that the autumnal
was a good species - the great
mass of specimens, under
that name were plainly
states of C. Kunza - but
there were some stouter
or immature specimens
that looked as if they
might be different.

I have a new species of
Rafinia from Bryan Co
N.J. also a new Pyrola
from Del. Co. N.Y which
I will send you soon
My plants are not here.

I have found 4 species

R. lanc
Rich.
& R. -
Specie

Why
is
in Li
I beli

I sen
you se
for the
is near
Nutt. th
lectotyp
is very

If you should
as above C

Ver

Dr. Englemann.

ta Fow

nobtcona Mt. Sh.

I Riccia this
Jale not supposed to
grow in this County.
R. lamellosa Raddi. R. ciliata
Rich. R. nigrescens Mont.
& R. — sp.? Will send
Specimens.

My Thesaurus Bulliarticum
ii Pht. portoricense Hampe
in Linnæa for 1848 & 47
Julian - (Either 1846-7 or 56)
Linnæa vol 24 (1852)
p. 389

I enclose the specimen
you sent me with thanks
for their nam. The n. sp.
is nearer to C. pedunculata
Nutt. than to any other N. it is
between it & C. peploides but
is very distinct from the latter
If you should have occasion to write me direct
as above Care of Col. E. Jewett.

Very truly yours C. F. Austin

Dr. Englemann. St. Louis Mo.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

P.S. The N. Sh.
is named in
honor of Prof.
Englehart of N York
city who was with
me when J. Smith
picked up the
plant on Staten
Island.
C.F.A.

W

Linnaea vol 25 (1852)
p. 359

551

Rec'd March 29th
Ans March 25

Closter N.J. Mar. 15-th. 1864

Dear Dr. Englemann, - I have got about through with my observations on Callitriche and would like to publish them, could not your society be induced to do it for me?

I make out 6 species viz:

1 C. verna, L. which appears to inhabit every part of the Habitable portion of the Globe - is quite variable but not to be confounded with C. autumnalis - which is often the case nor with any other species, - includes many nominal species founded upon unimportant variations of the leaf and fruit as to shape and size merely or upon size of the plant itself. among them are the C. hetrophylla, stenofolia, linearis and brevifolia of Rusk. C. turrentis, Raf. C. Platycarpa and

b. stagnalis, Kuntze. C. pedunculata
O.C. [The C. serilis DC. is an Elatine!!!
Vide Herb. A. Gray (I have forgotten the
species)], C. peduncularis Arnott. C.
aquatica Kuntz.

2. C. autumnalis L. ~~Readily, Abundant~~
throughout the higher latitudes of
Europe and North America, Readily
known by its bright green leaves
with a roundish constricted base
and a rather broad ~~ob~~ emarginate
apex with a crescent-shaped sinus,
they are also all alike; short linear
petioled to lanceolate much broader and
shorter than the immersed leaves of C. Kerna
and without impressed punctures.
The fruit is also quite different from
that of C. Kerna though not except
upon close examination to be
confounded with the European

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

- forms of C. Nerva, ~~the~~ but ~~long~~ usually
is much larger and entire, without or with
indistinct simpmid punctures.

= affinis Mex. var

3. C. pedunculosa, Nutt. of the South
Western States known by its fruit
being thickened in the centre and
on the keel, and raised on a ~~the~~
long thread-shaped pedunicle.

Doll Whipple p. 135 not in Hayden.

4 C. Marginata Torr. of N. Mexico
and California known at once
by its broadly winged fruit ~~on the~~
wings thickly studded with short
rays like the spokes to a wheel.
Raised on a long strap-shaped pedun-
-cle.

= affinis A. var. for specim-

5. C. Engelhardtiana n. sp. Inhabits the
Southeastern portion of New York.
New Jersey, Ohio, Tennessee
Arkansas, Louisiana and Texas

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

readily known by its small clasping
habit, (minute) broad and thin, flat fruit with
an echinate membranaceous keel
easily separable (into its 4 nutlets) ripened on a short
but distinct pedunch.

6. C. pedicellata, Nutt. — C. Drummondii Hegelm
Inhabits the
Southwest, from Tennesee to Texas.
Known at a glance by its small erect
habit, minute, persistent, easily separable
fruit, which, seen from above, has
a cruciate (or stellate) appearance Carved
by the curving (and twisting) of the lower portion
into a plane at right angles to the upper.
The styles are also much shorter than
in any other species.
I would like very much to
produce figures of all these
but am no hand with a pencil
myself and have not the means
to procure the proper assistance in that line.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I have also a new Polygonia and a new Pyrola that I would like to describe and will send specimens of them together with a var? of Lechea minor which I have always found labeled L. Major, L. in all the herbaria in which I have seen it. It has the leaves and habit of that species but the pod is very different being like L. minor but the distinguish-ing mark is the two little bract-lets on two of the three sepals being prolonged beyond the sepal. It may be a new species but I am not sure it is more than a var of L. minor, L. that has heretofore, on account of its oval leaves and general appearance, been con-

6) -founded with L. Major, L.
I also send specimen of Polygala
Verticillata (single and double)
flower-and fruit; Lonicera Engl-
-mannii, and Botrichium
simplex; together with a
set of the Diagnoses of N. Jersey.
The new Polygala is related to
P. verticillata but is 1/2 shorter
but full as stout of a pale
green throughout,
with a pale yellowish flower
often two-petaled, the sepals
are but little longer than the lips
the crest of which extends in
diverging lines to the apices
of the lateral lobes. In the
same locality a flowers

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

about 10 days later than P. verti-
cillata the leaves appearing a little
before the flowers and ~~become~~ (are at first) droop-
-ing ~~[illegible]~~ but gradually become
horizontally spreading. The mature
fruit is very short stalked and
the leaves are narrower than in
P. verticillata. Which is of a
dark green or purple hue throughout
the crest of the lip occupying only
the central portion, & P.

The new Rosonia is a green thing
with leaves different from any other
then described in the books
And the petals are unlike any
thing else in the whole subgenus
~~if not~~ to which it belongs. Incommunicate! The plant is
immature and I only succeeded
in finding 4 specimens and

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8) The one I send you is a very
poor one but the best I have to
show wanting to keep a good
specimen myself. The other
two I parted with sometime
ago. It must be borne in
mind ~~that~~ none of the flowers
were open when I found the
specimens but unfortunately opened
afterwards in some damp paper
in which I kept them for
a few days for ~~that~~ purpose.
It was a very thirsty pale looking
plant of a dark green color.
differing from any other specimen
I have seen in ~~that~~ respect alone.
I have a very remarkable Var. of Habe-
-naria Cristata if not a good Species,
which I want to send you in my next.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

By the way what have you in Hepatica. Messrs Sullivant and Lesquereux have promised to send me their Collections and I am to put them up after the plan of Musci Exsiccati Bor. Americani,

I would like to receive again those specimens of Collections I returned to you as you say you do not need them. I would also like to see some more European specimens of C. Vernal. Have you any? Those specimen of C. autumnalis you sent me were very acceptable and are much prized.

Very truly yours C. F. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Aug 13th 64
Ans'd Sept 2

Closter Bergen Co. N.J.
Aug. 6th. 1864

Dear Dr. Englemann,

I wrote you some time last month in reply to yours of (fine)
recent date, and enclosed a lot of
Callitriche Englehardtiana. Hope you
got my letter. I now send 9
specimen including Callitriche
Austiniana (I presume) & two three
forms of C. hamulata, C. Englehardti,
C. platycarpa, & C. Marginata etc. (also C. autumnalis L.) the two
last mere fragments. the very last
not in fruit the other in fruit but
fruit smaller and less broadly
winged than usual. I
C. autumnalis certainly
grows in British America as Dr.
Gray has printing the exactly
like form European one, and

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

the fragment I sent from L.
Superior is also the same. The
leaves are not to be mistaken for
those of any other species I have
seen. You will see that my
N. Sp. is very distinct from
C. pedunculata, Nutt.

I do not believe in C. stagnalis.
Think it a form of C. hamulata
and that may be only a form of
the old C. Vernal. L. There are
too many — as Dr. Torrey would
say — "betwixts & betweens".

The specimens you sent from
Zeneriffe looks much like
what I have seen in Dr. Sartwell's
& Torrey Herb. as C. platycarpa.
Is that & C. stagnalis all one thing
and the same?

The specimen I send from the

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Hackensack River (N.J.) is
invariably and constantly entirely
submerged - dies just as it comes
to the surface of the water - Grows
in running water 2-6 feet
deep. Whether it produces male
flowers under water or not I have
not yet determined, I am
not able to detect the male
flowers on the dry plant.

I am trying to get together all
the forms of Callitriche that I
can do as ~~[redacted]~~ to be able
eventually to limit the true species.
So far I have seen what seems
to be six good species from
North America. and only two
from other parts. (These two
also occur in N.J.) However
there maybe a half a dozen
species included in what I

have called C. Vernalis L. &
C. Austriaca L. yet &
I am yet in the dark as
to their Specific differences. Yet
I am almost persuaded that No. 1 is Specifically different from No's 2. 3 &.

2/8/10

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Very truly Yours

C. F. Austin

P.S. Of the Specimens you have sent me
those I have designated by the Numerals
1–4 inclusive (and) ~~[redacted]~~ what
I now send you under the name of
"C. Asiatica ?" are undoubtedly ~~[redacted]~~
forms of one and the same Species.
(from this country)
You have not yet sent me ~~[redacted]~~ anything
like my No. 1. But your "C. hamulosa"
from Sweden is very near it, yet there
is a ~~[redacted]~~ difference between them as
you will observe, the European plant has
rather smaller - more orbicular fruit with narrow
keels or angles -

C. F. A.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Oct 13th
Ans Nov 13

Clinton N.Y. Oct. 4th. 1864

Dear Dr. Englemann

Your letter of Sept. 18th. was received within a day or two after posting my last. and last evening I received another dated Sept. 18th. I have also carefully & minutely examined with the contents of both and particularly with the latter, and the specimens contained are above price. I am particularly charmed with your figures of the fruit of Callitriche Verna.

You ought to have Dr. Torrey's Collection ~~Che~~ as well as his Supplement to Dr. Gray's New Manual It contains Original Specimens of C. Peploides & C. Pedunculosa. Nutt. both too much mixed together However in his Specimen of C. Peploides being mixed with both C. Englehardt-

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Circa & C. pedunculosus yet if
my memory serves me Ruttall's
Description of these species is tolerable
though not very definite. But
the remarks he makes concerning
C. pedicularis are quite pertinent.
[See Trans. Amer. Phil. Soc., N. Ser.
Vol. 5, p. 141.] I have not the
work by me at present but
directly that I return to Philadelphia
I will see how

Your advice concerning my Orchis
is good enough & I should
follow it if I thought Dr. Gray
would look at the plant before
giving his opinion on it. My
experience so far would lead
me to judge that he would
not. For instance in 1854
I found specimens of Spiranthes
gracilis Lindl. and communi-
cated them to him under the

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

suppose that it was S. latifolia
or that was the only species de-
-scribed in his manual that
I had not collected before. (I
had seen this before but had not
collected) He wrote on that it
was S. Canina. I again sent
him the specimen describing it
as well as I could and stating
the flowers to be arranged in
a single row &c &c. Also mentioning
the time of flowering as being much
earlier. In due time I received a
reply that it was certainly S.
Canina. I did not believe it
and as I had that season col-
lected a lot of Orchids for
him at Kew I almost ex-
-pected to find them from
the locality and by 2 years

following I was unable to find it.
In 1861 I again found it in the
old locality and took the pains
to dissect a flower and clay the
parts separately, and then mounted
patiently a couple dozen for
S. Carolina, which I named in
the same way, and sent the
specimen to him dissecting his
attention to all the points of
difference that I could discern.
(In the mean time I had shown
them to Dr. Torrey who could
see no difference between
them even now!!!) This time
Dr. Gray saw a difference!! Neither
he or Dr. Torrey could ever see any difference
between those three species of Cuscuta
I sent you - although I had sent
them to Dr. Gray 2 or 3 times and had
shown them to Dr. T. There are several
other sixteen pairs as important in which
Dr. G. has served me in this way. I have

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I now have the Holotype in fact.
but have not had time to compare it
undoubtedly
thoroughly with A. Comte, yet I
compared
have but enough to observe
a manifest difference. I will
compare with a Mexican
as soon as I can get leisure to
examine the points of difference
observe characters.

The specimen collected once in
Oaxaca begins to appear quite
clear, a few more letters like
the last therefrom you and
I should be able to almost Mono-
graph it! You have cleared
already
up all those knotty I guess in
Dr. Gray's Herb.

I believe I once wrote you that
C. Englehardtiana was more nearly
allied to C. Marginata than to C.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Perhaps or in fact there to any other Specimens I had seen on account of the Mud being calcareo-arenaceous — I believe I have also observed in my notes that these sorts are a continuation of the 2nd. sort of the 2nd (Called the Spinis the outer coat probably the Cuticle of the stem & leaves) but I have not observed that they were simply thickened cell-walls.

I am highly delighted with my Specimens of C. Nemoralis. I believe I never saw it before from this Country — at least had not before collected it: I will send a better Specimen of my No. 9 which is no doubt the same thing as No. 1. It grows round in a half circle of water leaving a little peat scattered along the Common brook.

Would you like more Specimens

P.S. Since writing the above I have received your letter

by the water. but evidently at that time belong to my collection it
was entirely my own & No 3 was left submerged. C. F. M.

Among all the other things I have
sent you - have plenty left, of
the most of them -
I have for a long time been planning
to look over my notes in Collection
and send you some extracts, but
I could not find time - shall
do so however within a week.
I have always been sorry I had not
named my N. Sp. C. Englemanii
instead of C. Englehardtiana, but
doubted the propriety of changing it
as it is known in Br. Torrey's Herb.
also in Herb of N.Y. State. And
since you are going to study up
our species thoroughly it is best
you should find our N. Sp. described at least, and if you
find two others I shall cheerfully
grant the permission asked
your last to do so.

No. 1 was entirely my own collection
No. 2 was a small part of
No. 3 was left submerged

P. S. I think that I should have called
them C. Nuttallii
C. Englemanii
C. Englehardtiana
C. Torreyi
C. Nuttallii

I have been a rabid plant devotee nearly all my
leisure to the study of Musci and
Hepaticæ. I now have about 200 sp.
of the former all carefully determined,
and 80 of the latter, not quite all
obtained several of them new.
I now have 14 sp. of Riccia all from
this County and only 4 of them
described in Sullivant's Manual.
11 of them 14 are known this place.
I greatly need more Material. Could
not you send me some. I would like to
study up & return your whole
collection, and should be very grateful
for any specimens you could spare
I want to get ready a little before
the other things come.
The specimen of Riccia lamellosa
sent you last winter is surely a very
distinct species being entirely 2 sp.
and the R. Lindsta contains 2 of not
3 sp. I enclose a specimen of Pottia myuta
which should be P. Sullivantii but that
the leaves are 1-nerved - and the stipules
are quite free from the nerve shutting down of
the leaf so it would be nothing more
than fasciculata. A often matures its fruit

Thanks for specimens of Physcomitrium
Very kind you are. Sept. 5 1880

Best remarks - Sept. 5 1880
Specimens of Physcomitrium
Very kind you are. Sept. 5 1880

P. S. 8th Oct. 1864

I have deferred Mailing this in hopes of being able to get some more specimens of Collitriche for you list. Have not been very successful but enclose what I have been able to obtain.







copyright reserved

MISSOURI BOTANICAL GARDEN

Nov Oct 23d
Rec'd Nov 1st

Clinton Mo. 18th. Oct. 1854.

Dear Fr. Engelmann I have just finished shipping off some sorghum roots I made up to March last on Collection, and if they shall prove of any use to you I shall be pretty paid for the time and labor spent in preparing them.

They very incomplete, and I believe some of my most important ones have become obstropolous. As I intended making all the observations over again, rewriting everything, I was not so careful to preserve all my notes as I should have been if this had not been the case. I remember particularly having measured with a Micrometer the outlets of all the species mentioned in the notes, and observing about the buds - nerves - punctures &c. of the leaves & fruit, also that in some species at least the outer coating of

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

the fruit could plainly be seen to be a continuation of the outer cover coming of the ~~[illegible]~~ plant stem & leaves.

There seems to be a constant character in the circumference grooves of the fruit as you no doubt have observed.

I last week forwarded five specimens of C. Arizonica of which I inclose a part. also one letter from C. Englemanni; (pardon me for the name—if it don't suit you you are at liberty to alter it.) The compliment is more than deserved and unless you particularly desire to name the species I should prefer it to stand so.)

I exceedingly regret that I am obliged to send you the "cutes" in such a state, but I felt it a duty to send them and could ~~[illegible]~~ afford the time ~~[illegible]~~ to get them even in such a poor shape.

Very truly Yours

C. F. Austin.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

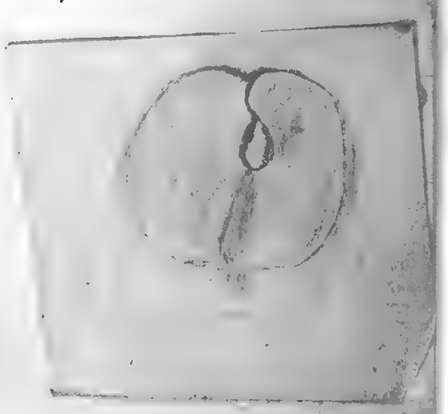
Acad Nov 11th
Asa Nov 13

Closter N.J. Nov. 7th. 1864.

Dear Dr. Englemann. For some time past I have been contemplating the project of critically examining my specimens of Callitriche (of which you have duplicates) and sending you the result of my observations. But I fear I have now deferred the attempt too long, for its consummation at this time, to be of any use to you: nevertheless I shall make the attempt.

I find no trouble in disposing of such species as autumnalis L. pedunculosa, Nutt. Marginata, Torr. Englemannii, nobis.

Callitriche autumnalis, L. Berlin &, St. Petersburgh- Dr. Englemann, leg- Jefferson Co. N.Y. J.W. Clinton Esq. all agree in every essential (if not in every particular) point and have Leaves lanceolate-linear, ~~truncate~~ truncate-emarginate and slightly 2-horned at the apex, rounded and concave at the base. ~~[illegible]~~ removed, dark green, of opaque small cells arranged in linear ~~[illegible]~~ rows. very narrowly margined. Fruit orbicular, over 1/12" in diameter, deeply emarginate at the apex the lobes approaching or even lapping over each other so as to close up the sinus; not emarginate at the base; the keels very narrow, subpellucid, (not winged) ~~[illegible]~~ not pitted (?) as in all other species or much more finely so, short pedunculed or apparently sessile.



[In Dr. Gray's Herb. you will notice specimen "Leg. E. Fries" with fruit same size but broadly wing-margined.]
Inflorescence not known. Styles short, reflexed, deciduous.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Callitriche truncata, Guss. Hab. Sardinia.

Leaves a little shorter than is usual in C. Hagenii, Hagelm., but structure and shape exactly similar to the immersed forms of that species — rather suddenly dilated at the sub-clasping base. cells rather large and hyaline.

Fruit orbicular same outline and size or in C. autumnalis, less emarginate at apex, the sinus not quite closed. short-pedunced bractless, Coarsely pitted as in C. hamulata & C. Morgani. the keels pellucid on the extreme border and with a dark line near to and parallel with the margin, the keels sharp, the circumpuntual groove broad as in C. hamulata Kutzg. (C. Fries lg.) to which I should refer this form. in fact I see no difference except in the shorter leaves and very slightly enlarged fruit of the last

Inflorescence not observed — styles short, deflexed, persistent (fruit bractless).

C. hamulata Kutzg. (Lg. C. Fries) [Like under C. truncata Guss.]

C. stagnalis, Scop. (Teneriffe, lagunes on rocks Ma. 1844- H. de la Perrandiere)

This (undoubtedly) is the same as specimens in Dr. Gray's Herb. from Kerguelen's Land, Ant. Expd. 1839-43. J. D. H. also from Hermite Island. same Expd &c. of which I could find no fruit. As I have no specimens of C. platycarpa to which you refer this I do not examine it but from general appearance should judge it not far removed from C. Verna. L. If I am not mistaken this has thicker leaves than the European C. stagnalis and is of a different color.



Callitriche heterophylla, Pursh Chile & L. No. 142. Bertero Sp.

From the color, and thickish leaves and general appearance of the fruit I should judge it not far removed from the last. but shall not examine closely.

Callitriche No. 141. Bertero is probably a reduced form of the above - and is probably the C. pedunculata. Just. The specimens are good and with good specimens of the latter at hand it would be easy to determine. I notice it has long threat-shaped persistent styles, in C. pedunculata the styles are very long and pendulous at first and are deciduous.? the pedicels (even in fruit) quite long and stout. in the specimen under consideration the styles are not deflexed at first. I see no difference between the fruit of the two last ~~in~~ and but little difference between them & C. heterophylla.

C. pedunculata ~~D.C.~~ [see above].

C. aquatica, Lw. in Andrs Equador - Coll. V. Hall 1844-5. (No. 4504-3.
in Herb. A. Gray.
If my notes are correct the fruit must be much as in C. Hasseyii, particularly the fruit.

Callitriche verna. L. I send another specimen, (from Albany) with fruit & little more scarcely developed than in Illinois from Oregon. also specimen from this place. same as C. Hasseyi (last cent. and same locality.

Fruit larger than in Asa Gray; and less pubescent. (Illinois) Pedicels evanescent at the apex. Leaves ovate-spatulate

C. Asagrayi, Hoffelm. I send another Specimen from near Albany N.Y.

Fruit smaller than in C. Vernae &c. deeply emarginate at the apex — (Obcordate). Styles long erecto-incurved &c. I am not yet fully satisfied that this is distinct from C. Vernae, and should not be surprised to learn that you had settled it as such.

C. Marginata, Torr. C. macroptera Hoffelm? Can you not manage to settle whether these are one and the same? It is very probable they are.

C. pedunculata Nutt. C. Nuttallii Torr. C. deflexa Hoffelm? I think with Dr. Torrey that Nuttalls names ought to stand for both this & C. pedicida.

C. pedicida Nutt. C. Drummondii, Hoffelm. The fruit is not bulged out at the base but the achenia are bent outward thereat.

C. Englemannii n. sp. (C. Englemanniana Bourg) C. deflexa Hoffelm? I send specimens of this collected on the 1st. of Nov. inst. growing in a turnip patch.

I enclose a manuscript - Can you tell me whether it is a Cryptogam or a Sponge? If the former it must be entirely new.

Very truly Yours C. F. Austin.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Dec 24th
Ans Jan 11

Worter N.J. Dec. 19th. 1864.

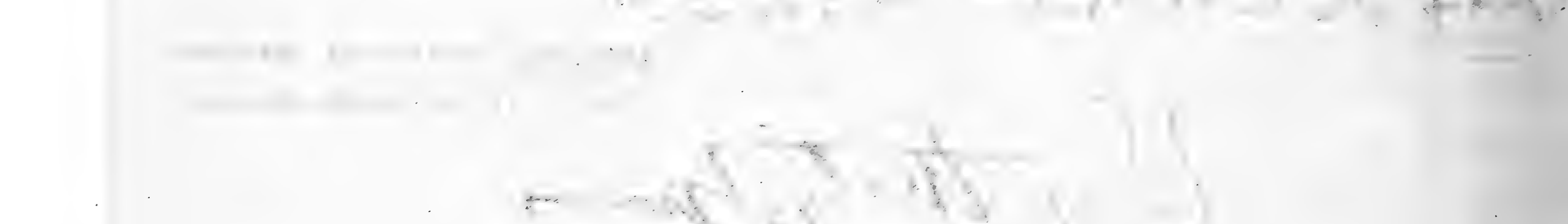
Dear Dr. Englemann

I owe you an apology for not sooner replying to yours of 13th. ult. but have been very busy two busy to Examine critically the Specimens you sent but am of the opinion Your perfoliata Heteropoda are forms of the same Species - Judging from appearance of the fruit only - but this seems to be a new one. The C. deflexa appears - in everything but the Keels of the fruit - to resemble very closely C. pedunculosa and the fruit is Nearer What I have formerly called C. Englehardtiana. The narrow pedunculate or a separate A form C. Marginata. Thanks for the Specimens.

I did not press — Many thanks for your notes (copies) attached — to call your attention to it — I thought it might be of more or less importance — but I don't want you to trouble yourself with it — unless you feel disposed

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN



copyright reserved
MISSOURI BOTANICAL GARDEN

I send you about all the E.
Engelmanniana (I shall call it by
this name until you choose with
it is now or not) I have — I found
it a very tedious thing to collect.
Spent time enough in collecting
what I have, it would seem, to
have been able to supply the (whole)
Atom plenty of C. Agrifolii and
Fine Specimens as you have seen.
Do you want more?
Will send ~~More often~~ plants
as soon as I can get the opportunity.
I enclose the "manuscript" which
was omitted in my last also in
the report package the "Collectanea Austiniae."

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Very truly Yours
C. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Post year - all home reading this Quotient in due time!!! C.F.A.

(May 3rd. Mr. Sullivant's Package was been found at last)
C.F.A.

Colo Col[umbus] O. Apr. 2 1866

Rec'd May 8th

Dear Dr. Englemann:

Your letter of Jan. 11th. containing specimens was duly received and I have deferred its acknowledgement till this late date hoping to be able by this time to communicate something interesting on the Callitriche. But I have been too busy with the Hepaticæ to have accomplished much had (my opportunities) been ever so good in other respects, but these have been very meagre.

In "A Compendium of the Flora of the Northern and Middle States" by Dr. Torrey "New York 1826"

Mr. Sullivant sent me a small package 3 months ago, but has not yet come to hand. I have written him twice since then.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I find on p. 14. the following:

"Callitriche terrestris: procumbent, diffuse; leaves oblong, uniform, rather obtuse; Capsule grooved on the margin.

Hab. On wet ground. Jun.-Aug.

⊙. — Creeping, small; leaves crowded; flowers polygamous; Capsule very short, and broad."

In the New York State Herbarium is a fine specimen of ~~Callitriche~~ C. Austinii under the name (if I recollect rightly) of "C. verna Kütz. terrestris. C. terrestris Raf." From this it would seem that Dr. Torrey had as early as 1826 examined your C. Austinii and regarded it as the C. terrestris

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

C. Verno. Now even probably between it & some other terrestrial species.

I Rotiniesque, — which I have but A little doubt it is — yet unfortunately for Rotinesque, names as your Rotinesque, how document — his description would cover any terrestrial species of variety. — So much for this. But by the way there is a Longer Ed. of Torrey's Bot. Which might be still more to the point, but I do not have it & probably you have both Editions.

I have been told by a very intelligent Gardener in New York that a small plant resembling a Collitriche is growing in the potts in Stewart's Conservatory Cor. 20th St. & 3-th Avenue N. York, but have not yet had an opportunity to investigate it. But believe that Callitriche Austini will be found

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

plentifully in all Connecting
from its peculiar Habitat here.
it being on Damp ground out of
the reach of drying winds. I will
try and investigate the matter this
Summer if you think it will be
worth the while.

Intend to put you up a package
of such things as I think will in-
-terest you - at the end of the
present season. Shall collect more
of the Callitriches.

Many thanks for the Ricciae &c.
will return some of them shortly.

Should be very thankful for the
loan of your Collection of Hepaticae - Please
Send by Mail if possible as that
is much cheaper than by Express.
~~Should you send it by express~~
~~please send it by mail~~
I deposited a package
of Mosses & Lichenes in the New York
Post Office, not long since weighing 3½ lbs -
(postage 28 cts.) It reached it's destination in Ohio
in due time. Very truly Yours Chas. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Jan 5th
Ans Jan 7

Clarks N.J. Jan. 1st. 1866

Dr. Englemann

Dear Sir:

I send you by mail a small parcel of plants, one or two for determination.

I have not yet had an opportunity to look up some more things I want to send you, but hope to get the time soon.

Should you want any more specimens of any of the Collections, I have plenty to spare.

I have your Riccia yet all safe ~~but~~ and will return it soon.

I would like your opinion on the Carex. It has no tubules! Also on the Lobelia which has no root-leaves.

Very truly yours

Geo F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

C. F. Austin

MISSOURI BOTANICAL GARDEN
ENGELMANN PAPERS
GEORGE

MISSOURI BOTANICAL GARDEN
cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved

Rec'd Jan 22d
Ans Febr 4

Clarksville Jan. 13th. 1876

Dear Dr. Engelmann

Your letter with specimens of Calliandra from rocky cliffs of the Mississippi &c. is rec'd. I collected that specie last December a year ago in a sunken place in a turnip patch and found one fruit on it. It appears not to mind plunging much like C. glauca which affects to flourish all winter in sweets &c. here. but does not fruit usually till Nov. or March now later than now &c.

I am right glad you have determined N Jersey I once attempted to study this genus and got through with it according to Torrey Fl. N.J. & Chapman. but was then retarded I have a great many species of most of the Texas species to distribute - & miss those of your new one.

Stephan Kalmiana Gray Herb.

I have collected it several times think I have seen them in N. Arkansas - which is my old part the — of a subtribe but cannot now

P.S. I have sent the Newark Botanist name as "T. A. Dain" it should be "T. A. Paine"

answer from Engelmann. Will try to look out for [illegible] things you want. N. arenaria is usually at last - yellow hue.

Have a great many things that would interest you when I can get at the time to pick them out for you. Lemna, Ruppia, Sagittaria, Gramen, Juncus, etc. etc.

Would you like some of the New Jersey Pine Barren plants? I have a friend who is a most elegant collector, and an enthusiastic if not a clever botanist. And he would like to exchange N. J. plants for Southern & Western species. Or if there is anything he can do for you the Exchange is no matter. For he is a good fellow as one can meet in thousand miles. and liberal to a fault.

Very truly yours C. J. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Nov 20th
Ans Nov 25 Austin Tex. Nov 15 1830

Dear Sir. Eyleman

I send you a
package Containing about
all the skins of Jaguar
in my possession. I shall be
glad, if you will
name them in return
a little out of each in
the package marked "Skins
=ion of Jaguar." Ought to
have attended to the Jaguar
skin. I have so many skins
in the line" some of the
most "fine."

Did I ever send you the
printed specimens of Botanical
=gation &c? If not will
do so as soon as I can

Yours
truly
C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Dec 14
Ans Jan 7

Chester Orange Co. N. Jersey Dec. 7th. 64

Dear Dr. [redacted]mann

Yours of 2nd inst. is

rec'd. Sands Point is the nearest

part of Shawangunk (pronounced

Shongum) Mountain in N.Y.

Dist. 10 - 20 miles west of the Hudson

River and about 75 miles N.E

of Philadelphia in the Hudson & Del.

canal.

I should like very much

much exchange with

you what you want. (If

convenient) it is too late to collect.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Orange Co. is in N. York State

west of the Hudson. 50 -

miles north of N.Y. City. The best of

the Orange Co. is Bog meadows near

Brookfield Orange Co. N.Y. Jn. 1864.

Sorry to say I never got the

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

c/y of St. Louis Transactions
of which you shall
get vol. 2nd. no. 1 in 3 days
after - and I received that
that the weather do mean after
when it reached me that I
understand I can get it after
all.

Will do all I can to aid
you in your Search but that
is not much. Shall be very glad
to receive the c/y of your Journal.

Have done nothing botanical
botanical find nothing
here.

What have you of Lem-
-nal. I would like very
much to see your Specimens
or I am going to study
the genus myself. Have
with the Gray Manual.

Very Truly Yours C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Jan 4th 1867
Clostin Mich. Dec. 24th. 1866
ans Jan 7 & 28

Dear Dr. Engelmann

I wrote you to send me some Lemna several days ago but have not yet had from you.

Should like very much to see what you have got before Closing up - which I shall have to do very soon. Should like to see all you N. American species at least and such ~~the~~ your progress as you may choose to send.

I find we do not have the L. gibba L. Enclose me the true L. minor. Has the L. arrhiza (Wolffia Schleid) but we have various forms of L. minor (L. punctulata Torr. L. trisulca minor Mich) &c.) and a n. sp. of Lemna perhaps intermediate in its characters of vegetation between L. trisulca & L. minor. and a n. sp. of Wolffia. — very different from W. Michelii

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I found today in L. Minn
(on St. Mexico & other places)
the pollen grains to be mixed
(in the anther) with innumerable
'Bicula' like the Desmidiaceæ
about as long as the pollen grains
and very slender & smooth.
And in a N. York plant I
found the pollen grains smooth!
and the sac filled with a number
of small globules Yeast-like bodies
all exactly of a size and perfectly
globular! The plant is connecting
divicus! — My specimens from
Pennsylvania ought be entirely
&c. (I call this L. Minn var
tricarina. The seed is another sp. Torrey
L. pectinella is smaller with the seed
about 3/4 another sp.)
My Clarke plants belong to a
new sp. which I call L. Torreyi.

Very truly Yours
C. F. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Febr 11th
Ans'd same day

Clouster Feb. 2nd. 1867

Dear Dr. Englemann

I have just received yours of 28th. ult. I had completed a reply to your former favor of 7th. ult. but luckily had not sent it.

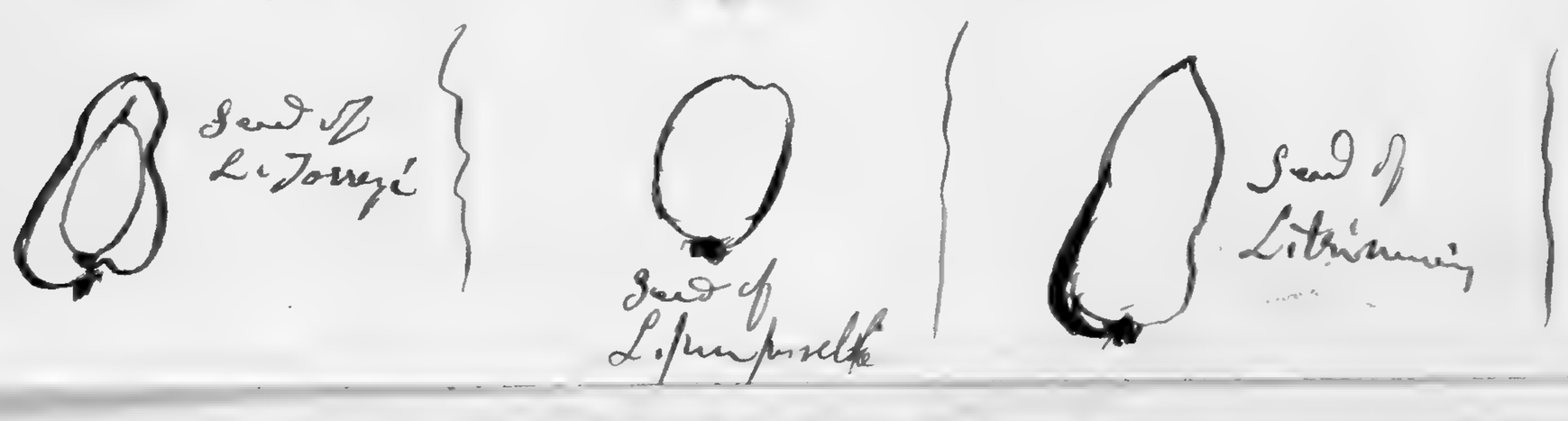
Concerning the Lemna:- in 1859 I found a species growing here which I took to be L. perpusilla I sent it to Dr. Torrey and he called it that species - in 1860 I found what I took to be L. minor, in Pennsylvania, abundantly in fruit - Dr. Torrey called this the true L. perpusilla and said he thought my Clouster specimens were the same but he could find no flowers in them. I sent him some more in which he found the fruit. he then wrote me that L. minor was very different from my Pa. specimen in that it has the seed holly= =ornate pores while the latter has it ana= =stomosing, and he further points out some of the characters of the seed in the Clouster specimen which he thought

(I sent this name about 2 yrs ago! A)

remarkable, and I said he considered it a "Note" of L. purpusillus (he did not notice the axillus) I then examined his original specimens of L. purpusillo and found that they were different from both of my specimens. I found the seed to be not anatropous as in both of mine but about 3/4 = anatropous and I could not see the "striæ" on it.

I then called the Pennsylvania specimen L. trinervis and the Clayton specimen L. Torreyi. This was in 1864 or 1865 - and after I had sent you "L. minor" (L. trinervis) & "L. purpusillo" (L. Torreyi)

L. Torreyi is a fine N. Y. species from all others it runs in the thick axillus - of the seed; in the 1 = nerved fruit it resembles somewhat L. trinervis.



0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I find no true L. minor from N. America ex-
cept Texas & N. Mex. (Wright) and this has
the seed half-anatropous or lying rather oblique
-ly in the utricle.
I have concluded that
L. pinnatifida & L.
trinervis are
varieties of L.
minor.


L. minus. Texas.


L. pinnatifida!


L. trinervis

L. trinervis has the fruit distinctly
3-nerved - but so has L. minor from
Texas. and L. pinnatifida has it
often with distinctly 3-nerved and in
L. trinervis I sometimes find the fruit
almost as oblique as in L. pinnatifida.
It is remarkable that, among all your
specimens, Dr. Torrey's, Dr. Gray's, Dewey's
and Eaton's there should be not a
single specimen of L. minor from
Europe!

I think I owe you
strike "L. minor" from the Hacken-
-sack Meadows. I now call this

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

the N. American form of L. Gibba - scarcely trained material, I am inclined to think that form occurs also in Europe when it passes for L. minor often than otherwise. My "new Wolffia" is W. Delilii no doubt - though Schleiden says "frondibus tenuissimis" which is not correct a mistake.

I have a n. sp. of Wolffia from Cuba nearly as large as L. trisulca & L. polyrrhiza

I send a list of the names of your specimens - if you sent the same things to Hegelmaier he must have L. punctata and some other things which he has not noticed.

I send some notes and specimens which I should like you to forward to Hegelmaier at your earliest convenience.

I also send some specimens for you to Vesque.

I have not yet received the Lemnas

Very truly yours C. F. Austin

P.S. I have about completed my paper on Lemnaceae and stick to L. Torreyi. I sent Dr. Torrey specimens & descriptions

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd March 2d
Ans. March 11th

Coster N. J. Feb. 25th. 1867

Dear Dr. Englemann - Yours of 11th. inst. is at hand.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

I have always considered the first 3 var's of Collitriche verna in Torr. Fl. N.Y. as forms or states of C. Gray's but am positive that the 4th. is C. Austiniii, for a specimen in the N.Y. State Cabinet of Albany under ~~that name is~~ Var. tenuifolia is certainly C. Austiniii - But Pursh's brevifolia I have always taken to be a terrestrial form of C. Gorgona, or C. vernon probably the former.

I have found C. Austiniii in a flown pot in a glass house in Early Spring and have no doubt it maybe common in such places. Neglected to look for it in the proper season.

Specimens of
Dr. Torrey's Lemna perpusilla (Collected or Stolen found in 1829) are all one thing - or rarely passing into the var. trisulca. I have specimens from Staten Island Collected by Leggett

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

in 1864 some of which is quite like
Nor. trinervis;
You had sent me L. gibba
both & ample & fine!
but not L. minor.

Your L. minor is sterile I am
sorry to say. The fruit is what I
am greatly in need of. For I found
from Texas (Herb. Reg) what I called L.
minor Coll. by Wright, which
had the seed half-anatropous - apparently -
I did not destroy the only specimen
that I saw in fruit - and your own
specimen from N. Mex. Fendler agrees
there and shows the ovule half-anatro-
-pous! But there found on the same
stem in L. minor (your own specimens) and
of a different shape & very distinctly (for
a Lemna) 3-nerved (Costata). The seed is also smooth
(I think) - and not as figured by Bergmart
So this may be a n. sp. I return the L. gibba
Cat sent. Many thanks for the L. minor.

Very truly yours C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Ans = July 5
Ans 7/13

Loretto Ky. July 30/03

Dear Dr. Englemann

You were right in presuming I would be pleased to find Wolffia arrhiza in your last (July 5th.) I had before found it in some of your Missouri Lemna but very scattering - and as I also found in the same postum printing L. Gibba ~~[illegible]~~ (a new record) exactly like your European specimens I thought they must have accidentally got there & therefore did not mention it in my notes to Gray.

I forget about the shape of W. Columbiana in the fresh state. But it is concave when dry.

Your small Lemna is what Hegelmaier calls L. minima and is my var. obtusata of that species.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

My W. maxima is not mexx. I forget what Hegelmeier calls it.

I fear I shall not be able to get those Juncis you want as they do not grow about here.

Wolffia Columbiana does not grow about here to my knowledge. Might I had sent it to you.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Very truly yours
Geo F. Austin

P.S. I send a box of Juncus in which was ~~with~~ the package you return. but seems to have been overlooked by you. How is it?

G.F.A.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Sept 3d Aug. 20-67
Ans Oct 25

Dear Dr. Englemann

Yours of 13th. is
rec'd. with specimens - I have
just taken a look at these
and so far notice two specis
One is the same as I sent
you under the name of V.
Columbiana Kars: the other
is what I had supposed to
be V. arkija - but it may
be diffrent! The frond is
somewhat ear-shaped and
there are usually two points to-
-gether - but the young frond
originates much nearer the
margin - it is not so much included
within the substance of the
parent frond. However this
appears to be the true
European V. arkija



V. Columbiana

I have not been able to de-
-tect a single form of
W. arrhiza from Onaga Co. Kans.
but will look again - the
plant is certainly worth
not that species - I only
have Hagelmann's word for
it that it is W. Columbiana —
and Kansan. I at first
called it W. vesiculosa
and afterwards W. Robbin-
-sii. I did not examine
the plant while fresh. but
Dr. Robbins says it is len-
-ticular; - when dry it is
concave above.

I have never seen Kansan
description or fig. The plant
I described certainly has the
chink appendages and
~~afterwards~~ to Robbins says it
is lenticular before it is
dried.

I found a single specimen
of a wolffia among Bjerkens

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Lemna Torreyi from
California, it was
much smaller than
W. arrhiza and proli-
-ous from both sides near
the bar. I called
it W. Californ-
-ica that is all I can
say of it.

I think Dr. Sturgeon's description of W. Columbiana.

I will look examine
my Wolffias and
report soon.

The pinch you went
to not sure about but
Parker must get
them for you.

Lewis

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I am just now engaged
on my Musci. I have
one M. Sem. & about a dozen
n. sp.

Very truly Yours

Coe F. Austin

Aug. 30. Will send you
some specimens next week.
Dr. Gray professes has
Kunze's description of
N. Columbiana

CA

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Sept 3d
Ans Oct 25 Clinton Aug. 25, 67

Dear Dr. Engelmann

I write you a word,
as I sent was so busy with my Muscí
that I did not send. Yours of 24th
is just rec'd with Lemna punctata
You were got Wolffia stuck fast
to paper from me. - at last it was
not collected by me.

I guess what you call W.
arrhiza is only a small form
of Lemna minor. And I have no doubt this to be
Linnaeus' L. arrhiza. It is
much larger than what I
call thus from W. arrhiza - but
you see W. borealis is
I have never seen but one form
or species of Wolffia from Europe
(W. arrhiza) and you sent the
same thing from St. Louis
& I found it mixed with
some of your L. punctata &c

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

but thought it might have got in here some of your Euphorbia specimens. But the last you sent for St Louis's letter the mother. Your doubt. There is more of this (that) however found) in the Europe Co. specimens.

I do not expect to find any Senecios here this fall. On account of the continued unprecedented heavy rains of the Summer. Everything has been constantly overflowed and washed <u>to death</u> and the Swines have all gone down stream. At present.

I fear I have now about 280 species of Mosses. Over N. Jersey. Among them are 2 new Barbulas. 2 or three Tricha. 1 Bryum. 1 Symphyoma N. Gen. of which we have 2 sp. both from N. J. only. 1 Leskea. 1 Orthotrichum and 7 Hypnum. besides quite a number of things new to this County & latitude.

Truly Yours C. Frederick

Rec'd Sept 12
Ans Oct 25

Gloster Sept. 7th. 1867

Dear Dr. Englemann

I regret that I could not find time to thoroughly reexamine all my Isoetia

I have examined the specimens last sent by you sufficiently to identify them as belonging to the species collected by me last summer in Orange Co. N.Y. I find 8 seeds which may belong to them - which I return

I was satisfied at the time that the former specimens were I. riparia - but this may have been a mistake and I have not time to reexamine now.

I leave the thing in your hands for the present

and hope you will succeed in finally settling the species.

The mosses occupy all my leisure time now. and I could spend a year to advantage on what I have accumulated in this line.

My latest discoveries are a new (?) Weissia & Barbula, a ? Didymodon, a Bryum & Mnium. & Hypnum or two. All doubtfully new, but appear to be new to us. I also find a sterile moss the leaves of which are broadly lanceolate in the middle ~~stem~~ on the upper side, & unlike anything else known to me. And that the leaves of Hyp. hispidulum, H. Mollusc. & H. Novae Angliae are subpapillose - often distinctly so.

Some of the Leaves mixed with your Wolffia looks like young L. gibba.

I enclose my "Conte" should like very much to see yours.

Very truly Yours C. F. Austin

Rec'd Nov 5
Ans Nov 7

Colorado Oct. 30th. 1867

Dear Dr. Englmann

Your letter of 25-th. inst. is just rec'd. I have been waiting to see what you would make of the Wolffia before again looking at them. On Saturday last I went out for the purpose of getting some Lemnas which I wished to keep growing during the winter, and the first pool I came to had a little patch of the Wolffia floating on it, among a lot of bush and weed. I succeeded in getting a few granules which I now have alive and was not long in satisfying myself that it is the same plant I last year found in Orange Co. The fronds are truly globose-ovoid as you say - The border of the chink (or gutter cavity) is expanded only in the previously dried and then soaked specimens. It is however by alcin on the very border and composed of much elongated transverse cells. This cavity is much larger than in W. arrhiza, and after shedding the (about mature) offshoot a second young one may (always?) be found in the same cavity (This also occurs in the Lemnas) The fresh plant is full twice the size of the previously dried and then soaked one, and has a quite a different look. My fresh specimen abound in starch(?) Granules. I have not

yet looked for pores or stomata, but tried to find the upper surface and think I succeeded, by rolling the pencil over under a thin glass it presents a small spot which appears have a slightly different structure from the rest of the pencil. I also found by making the pencil point upward in the water and then tumbling the plant about in the water that the same side invariably came upward. Yet I consider none of these things final.

The plant first found struck me as presenting a different appearance from the Bunge A. specimen, which I thought were darker green above and something purple underneath. The fact is I was away from home and didn't look much at the specimens - only taking good care to get a lot of the stuff well dried, thinking that as in Lemna dried specimens are about as good as any!

I certainly found wolffia arrhiza among your things. You sent me from Missouri but concluded that it came from Europe - for the plants were not sticking fast to the Lemnas - were very few in number & there were also a few fronds of Lemna Europaea L. gibba in the same papers!

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

It appears to me I settled those "bugs" as belonging to fungus.

I have found the "spots" on L. polyphylla var. N. Durhamii N.J.

The California fungus was much smaller than N. Columbiana, lenticular and solid. — a new spec! The buds adhered rather firmly to the old plant.

Should like very much to see N. albiza growing on my table. Will send a little of my N. Columbiana. along with Lemna Torreyi.

The fork fungus of N. Columbiana are very crisp or brittle. The color is uniformly pale green all over. There also appears to be 'spots' of a dark color in the epidermis on all sides. I will see & examine to-morrow & see if I can resolve them. I am unable to resolve the spots. They appear to surround the stomata forming little patches of an irregular shape. composed of minute granules.

Stomata very numerous!

I think I have sent you about all of my new things, excepting possibly Spiranthes simplex — which by the way I sent to

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Dr. Gray with notes — a fine lot of Specimens — some with the radical leaves — in 1858! Along with Physaria, Lesquerella & Paronia affinis. I am sure I sent you the Pyxie oxycheteta but I only had 4 plants. One I gave to Dr. Gray another to Dr. Gray the 3rd to you & the 4th I have myself. I find Dr. Gray recognizes the Linum as distinct which it certainly is —

I know no more of the Paronia and "Civilization" has exterminated the locality. If you will send a list of what you lack I will send them — that is if I have any left.

Very truly Yours

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

P.S. Coe L. Austin

Yes Paine's Lake Ontario Vaccinium are partly V. arbrija but I see no "green" surface — plant paler than the other Fronds more oval(?) smaller, more wkd, pale; chink smaller, not margined. Etc.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Jan 8th 14
Ans'd Jan 11

Closter N. Jersey Jan. 2nd/'14.

Dear Dr. Englmann

I am about to commence the determination and publication of the North American Hepaticæ, Messrs Lesquereux and Sullivant have already sent me their collections and I have a goodly number of my own. I believe you have promised to assist me by loaning specimens for comparison.

I have already commenced with the Riccieæ but find myself in want of foreign specimens for comparison. and if you have any I should be exceedingly thankful for the loan of them for a short time and should return to you immediately all that

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I should not want to use and the rest as soon as I [redacted] should get [redacted] through with them. Probably I will not require over a month or two at the furthest ~~to~~ and possibly not over that number of weeks to get through using your specimens of Ricciæ, ~~I~~ does not care particularly for other things at present. but of Ricciæ it is absolutely necessary to have some foreign specimens of Ricciæ before anything pretense can be accomplished in the way of studying up our species. I have received from M. Lesquereux European specimens of R. glauca, natans, fluitans, Lamellosa (Pers) & R. Crystallina Bischoffii, minima ~ 7 species in all. about ½ the number of American species I have on hand. C.F.A.)

Very truly yours

C. F. Austin

Dr. Englemann
St. Louis Missouri

Rec'd Nov 22 1869

Gloster Mo. Mar 9th 1869

Dear Dr. Engelmann

I enclose two Lemnaceæ from Cuba Wright which appear to be interesting No. 6 & 8 I can readily reconcile with my notions of what L. minor should be. The frond is not thin & not very convex above the middle. I have not seen the fronds germinating only on one side and then the new frond shoots out at a very obtuse angle from the parent.

No. 7 has the fronds very convex, otherwise I should have no hesitancy in calling it Wolffia Welwitschii - of which I know nothing except from the 3-or 4 fronds which I got from Herb. Gray. The

Specimens are in fine flowering & fruiting Condition. There are two forms. ~~Curtisii~~ Neum the type of the fund. & others burst through the upper surface



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

I am just now at work on the Heliotricha again

Very truly Yours

Chas F. Austin

P.S. I enclose a curious thing from Pigeon River Falls, Ex Sullivo

C.A.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd July 13th
Ans Sept 2

Clinton N.Y. July 6th. 1864

Dr. Engelmann

Dear Sir—

Yours of 27th ult. is just received & very glad to hear that Dr. Homelond (I cannot make out the name) has been endeavoring to clear up the Callit= =riche and am greatly obliged. For the information your epistle contain on the subject. I would like very much to see the work you speak of. Could not upon through influence procure me a copy or loan me yours for a few weeks!

I make out (N. American) six species of Callitriche. Viz.

C. Verna L. (?) Well characterized by the oval fruit with a remarkably plump appearance - sessile, and with a pair of bracts at its base. Stems 1'— 2° long. Grows — Evergreen

from Maine to N. Mexico. I
am not sure this plant occurs
in Europe - I have never seen
it from that locality, and think
it may be the C. Asa Gray i ——
I so this name will not stand
for all the forms of this plant
have been described by Nuttall
and other authors under the name
of C. linearis + brevifolia &c &c.
(the male flowers are often shocked
under water!).

C. Autumnalis L. occurs in
British America. ~~but I do~~
Exactly the same as you get
from Europe. [Vide Herb. Torr
also Herb. Gray] Well characterized
by the broad ~~base~~ base of the
Grass glen leaves Etc Etc.

C. pedunculata Nutt!!! C. Nuttallii
Torr.!!! Well characterized by
the fruit long on a long or
thin pedicle which is thread
-shaped - (not tapering) the fruit

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

often buried in the fork by the deflexion of the pedicels. Dried fruit is broader than long with a bulge in the centre and the rim is also bulged out or thickened. Giving it a remarkable appearance entirely different from all other species I have seen. — Lowne & Co.

C. floridus, Nutt. !!! Stems erect - fruit Cruciate very characteristic Mississippi River

C. Marginata Torr. !!! [C. Pterosperma Gray !!! (or some thing of the same import I have and cannot give the exact name now)]

This species is known at once by the long pedicels which is very broad at the base (often as broad as the leaf) tapering evenly upward - by the fruit being nearly as broad



wing studded with short
rays like the spokes to a wheel.
Grows in N. Mexico &
California

C. Englehardtiana N. M.
Very distinct from any of
all forms of C. pedunculata
or any of the Opuntias that I
have seen - Fruit very thin
with plane flat tubercles, surface
the tubercles are remotely easy of sepa-
ration and are somewhat adnate
on the back - This species comes
nearest to C. Margaritana Haage
to any Opuntia Grows on Rocky
Hills in Old (Shady) Canyon ways when
winter has not stood severe Rocky
flood often on flesh side hills abo
I will send a lot of it (Love
It occurs throughout the Northern States!

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

When I again return
Home I will send you a
seed list & C. Vern &
and a fragment & C. Jodinclava
& C.

What do you think
of My new Responsibility. I have
a few more Sheep yet
is a very distinct and pretty
species _ very different from
N. Kentuckiensis, Nutt. or Stink

We also have another Species
of Rhexia — Grows on
Rocky Hills & in Meadows —
flowers in June a Month
Earlier than R. Cornuti
with which it has been confounded
It remains in flower but a
few days, not to exceed 10
R. Cornuti remains in flower
from July 1st. to Middle
of August) has dark purple
stems & thick dark green leaves



studded with waxy grain
under neath - oblong - or lanceate
ellipt. which are persistent as
are the stamens - flowers with
more or less a purple tinge
and almost purple disc.
(N. Country has ephah 'Coducon
always and mealy cord - flowers
white: leaves thinner
smooth as pubescent below.)
I believe I have sent them
already but have collected
a fine lot this spring.

I would like very
much to see the new
work in Callitriche for
I think I should know
the ones out N. now & the
N. O. in it. I am quite
sure the C. ~~hamata~~ the
Sharei - C. deflexa - C. hamu-

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

– Mondi and probably the C
Macrostax are none of them N. Sps.

I am greatly obliged for the C.
Staphalis you sent – have one
it before from Europe – but
never made up my mind fully
about it – but am of the opinion
it is one of the four C. vera
L. which I believe to be distinct
from the American plant usually
called by that name.

Very truly Yours

C. F. Austin

P.S. Your favor of Mar. 25th
rec'd.

C. F. A.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Oct 7th
Ans Sept 28

Colosta N.J. Sept. 1st. 1864

Dr. Engelmann Dear Sir

I received a letter from you some time about the 1st. of July and answered it very shortly there-after enclosing a fine lot of Collitricha Engelmanni. I again write about the 1st of Aug. Enclosing ample specimens of C. Austiniæ & C. platycarpa &: have not yet heard from the letter and am exceedingly anxious but you did not receive them. Please let me hear from you at your earliest convenience and oblige

Very truly Yours C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Ans 2 Dec 6

Closter N.J. Dec. 1st, 1869

Dear Dr. Englemann

Yours of 21st. ult. is

rec'd. No doubt you had a profitable visit to Europe!

I have not paid much attention to Phaenogams and have detected nothing interesting in that line lately.

Macoun has been to the L. Huron Country the past Summer - what he found I have not yet learned.

Did I send you a Specimen of the New Danthonia? It occurs also in Pennsylvania -

Send the Monograph of Lemnaceae to Either Dr. Torrey - when you have occasion to send a package to him - or else to C. F. Parker Phila when you send a package to that place.

Very truly Yours Geo F. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Glen Ridge N.J. Sept. 23/70

Dear Dr. Englemann

Some of our New York botanists have been after the Lemnas with a good deal of earnestness this summer, and one of them Mr. W. H. Leggett has found L. polyrhiza? in fruit. The stricle bears but one seed - and it may be a M-sp.

They want me to make a sketch of it for the Draughtsman and have just sent me a few fine specimens

but before I undertake this I want to see Hugelmann's splendid work. If you have not yet sent my copy please do so at once and you will oblige me very much. Direct to

Closter
Northern R.R. of N.J.

If you have already sent it to Parker I will get it as I shall write him immediately to send it along - if he has it.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Have you seen the
Lemna herein mention-
-tioned? if not I will
send you some of it.

Henry Gilman
No.5- Original
Terrace Detroit Mich
sends Wolffia Colum-
-biana in flower.

Very truly Yours

C. F. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

GEORGE ENGELMANN HERBARIUM
MISSOURI BOTANICAL GARDEN



Rec'd July 25

Clinton N.Y. July 20th. 1871.

Dear Dr. Engelmann

In looking over my papers and clearing up some of my rubbish I find a letter directed to you as long ago as Dec. 18th. 1870. and acknowledging your letter of 12th Dec. and the receipt of Hegelmaier's "Lemnaceae" I presume you had this long ago.

I see Mr. H. does not give L. punctata as a Synonym, why is this? (for his Spirodela oligorrhiza)

By the way there is a very old specimen of Lemna Valdiviana in Herb. Torrey under the name of "L. Chilkeensis nobis" I think from Schweinitz. A good deal of the "L. trisulca of Torr & Gr. in Bot. of Pacific R.R. Survey is this species! Hegelmaier has figured this species badly.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

When you write to Hopkinson again please give him thanks for me, for his fine work. Yet I don't know but you are the person most entitled to them.

Sillman just sent me one his flowering specimens of L. triurica from Detroit

Very truly Yours

C. J. Austin.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd April 18
Answ — 19

Clayton, N.J. Apr. 8th. 1872.

Dear Dr. Englemann

Your letter enclosing Wolffias was duly rec'd. Thanks for the specimens; they are highly interesting to me.

I want your opinion on the following little plants; unfortunately I have so little of the plants that I will not be able to furnish a specimen — at best of the first one.

Last fall, Mr. James sent me a few Pennsylvania Hepaticæ for determination, among them Anthoceros punctatus. Among the fronds of this I detected a few 8 coarse fibers which had much the appearance of rootlets of grass or sedge, or something else, which are often found entangled among such moss as grows in similar situations, yet it struck me as being something new to my eyes. I carefully extricated a little of it and put it under the Microscope; the minute pubescence & the articulation of the branches excited my curiosity and I searched carefully for more, this time I was rewarded with another fragment, being a fruit, which had been hidden under the fronds of the Anthoceros. I dissected the fruit, but found all the spores had disappeared.

The plant appears to belong to a new genus of the Filicoids, most nearly — yet distantly — related to Equisetum. And I have thought of naming it [redacted] Pennsylvanica. It was collected by Prof. Porter. —

Stem scarcely thicker than a horsehair, terete, irregularly branched, pale, pubescent, entangled, rigid, minutely pubescent, leafless, rootless.

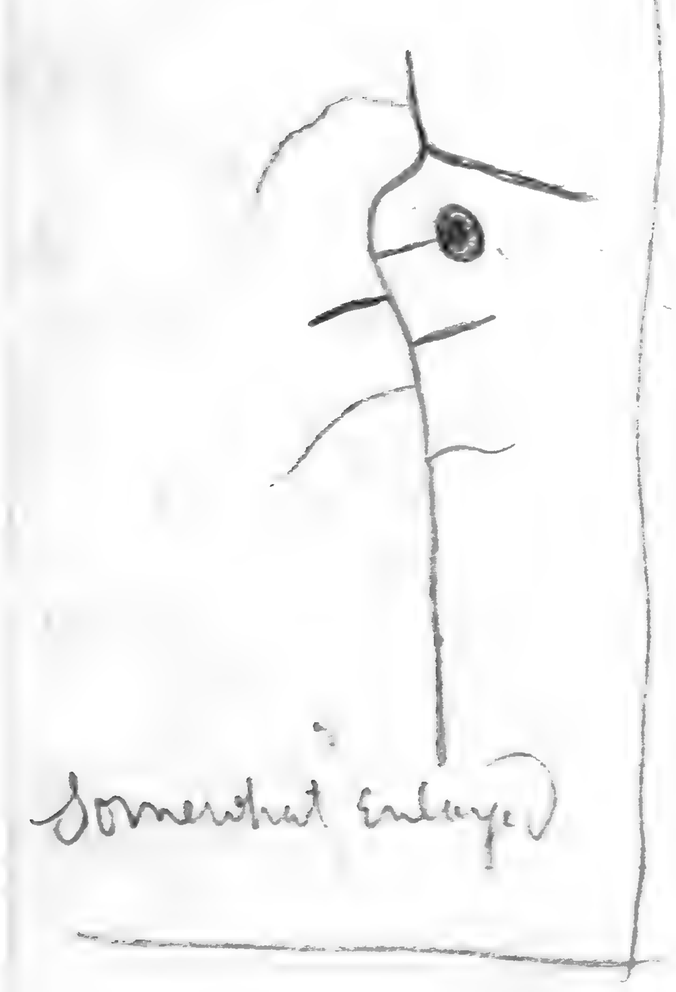
0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Branches articulated at the base, short, mostly at right angles to the stem (or nearly so).

Fruit a depressed-globose head, about 2"–2½"-in diameter, borne on the apex of a branch, and composed of crowded, rigid, (somewhat woody) sporocarps? or scales [if sporocarps splitting to the base into 4 (always?), globuliform concave segments of a peculiar cellular structure; if scales arrayed in 4's (always?) and with the bract somewhat circulate ~~at~~ apices (apparently at least) united].

Scales (division of the sporocarps?) obscurely costate toward the very narrow base, somewhat membranaceous towards the margin. Cells obscurely long and irregularly tortuous, and with ~~pores~~ pores! (between them?)

I send a rough sketch of the plant — below.



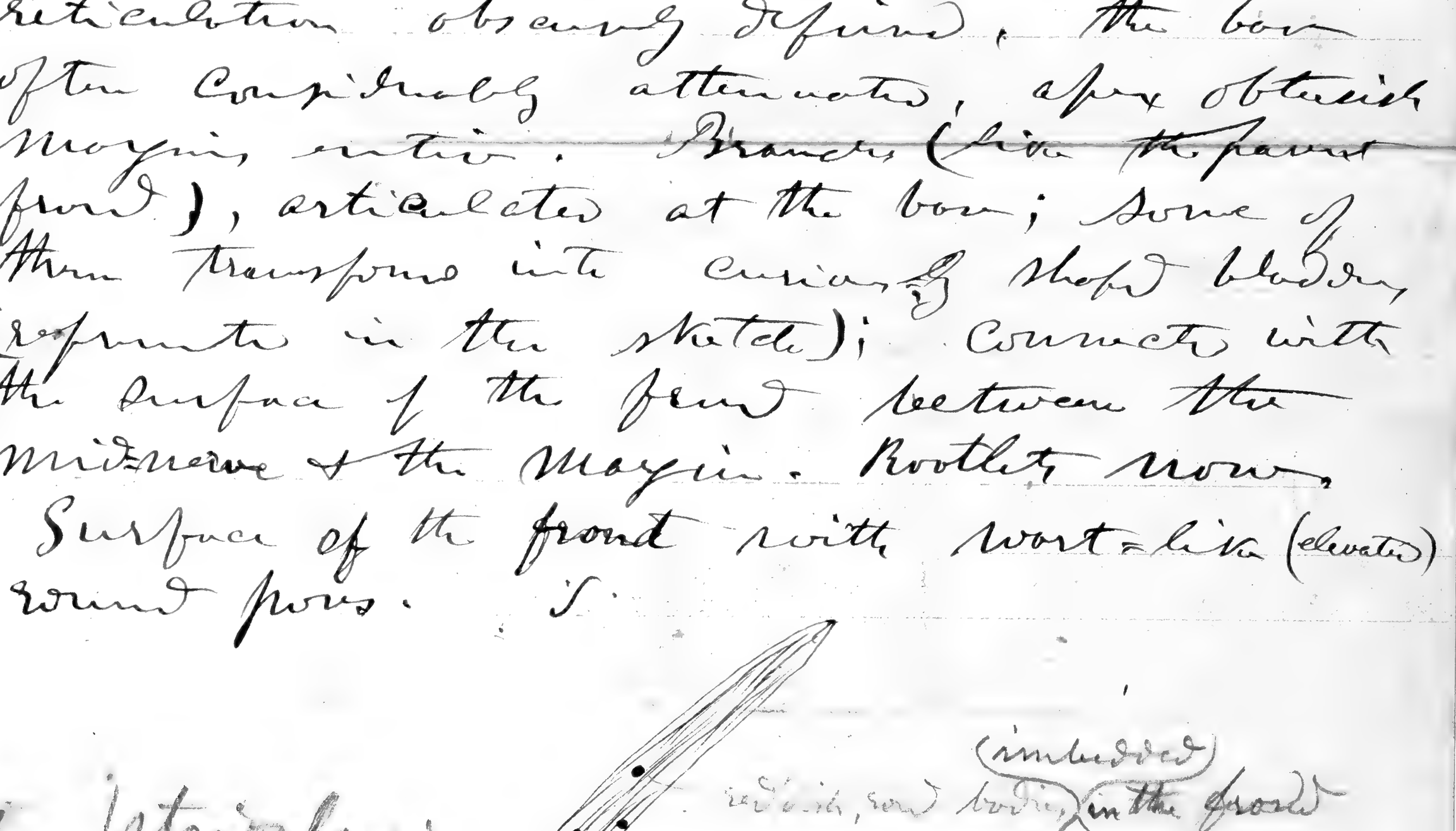


Atalaya?

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

The other plant Dr. Gray calls a "Utricularia" It was collected at Pigeon River Falls N.C. in 1844 by Mr Sullivant & left with his Hepatica. although he plainly did not consider it to belong to with them. I send a couple of fronds. It appears to me to be an Endogen & somewhat related to Wolffia. —

Fronds: Fronds about 1" long by less than 1" wide, thin, with a slender Midnerve, linear (inclined) to oblong-ovate) the lower portion colorless, the reticulation obscurely defined, the base often conspicuously attenuated, apex obtuse, margin entire. Branches (like the parent frond), articulated at the base; some of them transform into curiously shaped bladders (represented in the sketch); Connected with the surface of the frond between the Midnerve & the Margin. Rootlets none. Surface of the frond with wart-like (elevated) round pores. J.



0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I have a new Danthonia
from the west end of Long Island,
It is characterized by a slightly
branched culm over 3 ft. high, and stout,
flat rather wide leaves with naked and
polished sheathes Open panicle with long slender
branches each of which is subtended by
a subulate bract, &c &c. Hope to
be able to procure some specimens
for you this summer.

Very truly Yours

Coe F. Austin

PS

D. compressa is not a good name for the species
I have thus named, ^ same the ~~It is~~ Culm is ^ not compressed
in ~~the~~ any of the numerous specimens collected by
me in 1886 (as I remember) Is it admissible to change
a name when it is found to be inappropriate?

C.A.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Greenia

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd April 29 1872
Answering

Closter N.J. Apr. 25-th. 1872

Dear Dr. Englemann

Yours of 19th inst.

is rec'd. Thanks for the specimens of Riliularia. The new (Cryptogamic) plant is not a Riliularia. Should not be surprised if it turns out to belong to a suborder of Filices or of Equisetaceæ. The other plant may be a Ricciaria. I know but little about this genus, will look into it a little deeper at the first opportunity. The plant in question posses some very remarkable features, and I thought it might be allied to the Lemnaceæ.

Have just found a new Marsilia in a little sample of M. vestita. Ex Herb. Gray. Collected in Oregon

by E. Hall, in 1871. The leaves are much less hairy than in M. Virginiana. and the elongated ovate-oblong fruit — is borne on a long flexuous pedicel.

I send — all I have of both this & the new Cryptogam you may return them at your leisure.

Hope to find the new Crypt. this season as its habitat is known — Bear swamp. Berwyn. (Porter) Think I wrote you that I have another new Gentiana. Hope to get — supply of it — this season. The stem branches from all the joints. but the lateral panicles are all (or nearly) included in the sheaths. Hope to send it soon.

Very truly yours

Coe F Austin

Presume Dr. Porter will make a thorough search for the new Crypt. this summer: Seen it shower collected as early as July. The fruit on my specimen (collected in Oct.) is very old. no spores. yet this appears to be about all that is wanting to settle its relationship with other families of Cryptogs.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec Octob 24

Clinton N.J. Oct 17—92

Dear Dr - Engelmann

Your letter of recent date is rec'd - Thanks for the fine Lemna specimens!

Azolla Caroliniana was never found in N.J. to my knowledge. Never saw it growing. It is said to be very plenty in the bays &c., of the Great lakes. eg. Lake Ontario (Big Sodus Bay).

Have been to the W. Mts. for Mosses this fall - Did not find the county as prolific in species as I had hoped. Did not add many new things to our flora - probably about 3 Sullivania and a half dozen Hepaticae. There appears to be no broad plateaus in the alpine regions and no marshes to speak of.

Very truly Yours

Col J. Austin

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Jan 14th 1873
Ans — 21 —

Clorter N.S. Jan. 2nd, 1872

Dear Dr. Engelmann.

In looking over some Japan Hepaticæ, which I got from Mr. Sullivant, I found the Enclosed, under the name of "Riellia heliosc[illegible]pica?" It is not Riellia heliosc[illegible]pica! nor do I believe it is an Hepaticæ at all.

The frond resembles ~~it~~ an Anema, but is of an entirely different structure, and appears to contain grains of starch.

The erect stems are much expanded at the hollow apex, which contains spores? or antheridia? or pollen grains? which are naked? They are clothed with small, irregular, contorted, loosely reticulated, distant, nerveless, scales or frond-like leaves.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

I have examined the plant but very little, and send it to you hoping that you may know it.

I cannot form any idea as to its place among other plants. It may be a Phanerogam, a Filicoid or an Algaceous for anything I have yet seen to the contrary.

Very truly yours

Coe F. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Sept. 30
Ans — 3?

A

Clorton, N.J. Sept 30/73.

Dear Dr. Engelmann

I am now printing the Labels &c, of the Heliot, Exic. It comprises 175 numbers, many of them rare or little known species. The price for the first 20 sets will be $15. but I shall not get up any more at that price.

I propose to go to Florida this Winter on an exploring expedition for Moss, &c. Had Mr. Sullivant lived he was to pay my expenses but as it has turned out I must save the necessary funds by subs-

scriptions. I propose to fix them at $10-15— & each subscriber to receive a set of the specimens on my return. Do you feel like taking any stock in the enterprise? Guess it will be full as good as Northern Pacific! Can't promise certain that it will be any better, but I hope to make it, in time, above par!

Florida offers to the world in Mycology & ought to afford many new or [illegible] things in the botanist's line.

Will send you a copy of the pamphlet of

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

the Application as soon
as it is complete.

Very truly yours

Cora F. Austin

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Rec'd Dec 14 1876

I got a letter from you last summer re-
questing me to make collections of Specimens
of Oaks - I regret that I could not attend to
this. a few yrs. ago I was anxious to do this - in
fact did make large Collections, but Drs. Torrey
& Gray did not think them of any account -
would not even look at them & so they
were not preserved. Now I can not afford
the time - in fact shall be obliged to forgo
all botanical studies after this winter

Clinton, N.Y. Dec 12/76.

A Ruthven

POSTAL CARD.

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Geo. Engelmann
Saint Louis
Mo.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN